

WHAT IS CLAIMED IS:

1. A method for producing a belt for an image forming apparatus, the method comprising:

applying a release layer containing fluoropolymers on a die surface of a shaping die;

baking the release layer applied;

applying an elastic layer over a surface of the release layer, the surface of the release layer being opposite the die surface as viewed from the release layer;

baking the elastic layer applied;

applying a supporting layer containing heat-resistant synthetic resin over a surface of the elastic layer, the surface of the elastic layer being opposite the die surface as viewed from the elastic layer;

baking the supporting layer applied;

removing unevenness of the supporting layer; and

releasing the release layer, the elastic layer and the supporting layer from the die surface.

2. A method as recited in Claim 1, wherein the unevenness of the supporting layer is removed by polishing the supporting layer.

3. A method as recited in Claim 1, the method further comprising,

turning the release layer, the elastic layer and the supporting layer inside out as one body, during or after said releasing the release layer, the elastic layer and the supporting layer from the die surface.

4. A method as recited in Claim 1, wherein the belt for the image forming apparatus is at least one of a fixing belt and a transferring belt.

5. A belt for an image forming apparatus, the belt comprising:

a release layer containing fluoropolymers and positioning at an outermost layer;

a supporting layer containing heat-resistant synthetic resin and positioning at an innermost layer; and

an elastic layer positioning between said release layer and said supporting layer,

wherein unevenness of said supporting layer is removed after said supporting layer is dried or baked.

6. A belt as recited in Claim 5, wherein the unevenness of said supporting layer is removed by polishing.

7. A belt as recited in Claim 5, wherein the belt for the image forming apparatus is at least one of a fixing belt and a transferring belt.

8. An image forming apparatus comprising:

an image forming unit operable to form a toner image;

a transferring roller operable to transfer the toner image formed by said image forming unit onto a recording medium; and

a fixing unit operable to fix the toner image onto the recording medium by melting and pressing toner constituting the toner image,

wherein said fixing unit comprises:

a heat roller;

an inductive heating portion operable to heat said heat roller by electromagnetic induction;

a fixing roller operable to be arranged separately from said heat roller;

a fixing belt operable to be stretched by said heat roller and said fixing roller;

and

a press roller facing said fixing roller, said press roller and said fixing roller nipping the recording medium with the toner image transferred thereon, to form a nip section,

wherein said fixing belt comprises: a release layer containing fluoropolymers

and positioning at an outermost layer; a supporting layer containing heat-resistant synthetic resin and positioning at an innermost layer; and an elastic layer positioning between said release layer and said supporting layer; and

wherein unevenness of said supporting layer is removed after said supporting layer is dried or baked.

9. A transferring belt comprising:

a release layer containing fluoropolymers and positioning at an outermost layer;

a supporting layer containing heat-resistant synthetic resin and positioning at an innermost layer; and

an elastic layer positioning between said release layer and said supporting layer,

wherein said release layer has a higher coefficient of linear thermal expansion than that of said supporting layer.

10. An image forming apparatus comprising:

an image carrier operable to retain a toner image; and

a transferring belt operable to be transferred thereon the toner image formed on said image carrier,

wherein said transferring belt comprises: a release layer containing fluoropolymers and positioning at an outermost layer; a supporting layer containing heat-resistant synthetic resin and positioning at an innermost layer; and an elastic layer positioning between said release layer and said supporting layer;

wherein unevenness of said supporting layer is removed after said supporting layer is dried or baked.

11. An image forming apparatus as recited in Claim 8 further comprising: a plurality of rollers operable to stretch said fixing belt, wherein said supporting layer after the unevenness thereof is removed has smaller surface roughness than those of

said plurality of rollers.

12. An image forming apparatus comprising:

an image carrier operable to retain a toner image; and

a transferring belt operable to be transferred thereon the toner image formed on said image carrier,

wherein said transferring belt comprises a release layer containing fluoropolymers and positioning at an outermost layer; a supporting layer containing heat-resistant synthetic resin and positioning at an innermost layer; and an elastic layer positioning between said release layer and said supporting layer;

wherein said release layer has a higher coefficient of linear thermal expansion than that of said supporting layer.

13. An image forming apparatus as recited in Claim 12, wherein the unevenness of said supporting layer is removed after said supporting layer is dried or baked.

14. An image forming apparatus as recited in Claim 13 further comprising: a cleaning unit operable to remove toner remaining on said transferring belt, wherein said cleaning unit includes an elastic blade.

15. An image forming apparatus as recited in Claim 14 further comprising: a supporting unit operable to support said cleaning unit, wherein said transferring belt is nipped by said cleaning unit and said supporting unit.

16. A fixing belt comprising:

a release layer operable to work in contact with a recording medium;

a laminate portion operable to work in contact with a magnetic roller; and

an elastic layer positioned between said release layer and said laminate portion,

wherein said laminate portion includes a plurality of heating layers and a supporting layer, the plurality of heating layers containing non-magnetic conductive

metal and the supporting layer being operable to support said plurality of heating layers.

17. A fixing belt as recited in Claim 16, wherein said laminate portion is formed by laminating said heating layer and said supporting layer alternately.

18. A fixing belt as recited in Claim 16, wherein the non-magnetic conductive metal is silver.

19. A fixing belt as recited in Claim 16, wherein said laminate portion includes two to five heating layers.

20. A fixing belt as recited in Claim 16, wherein said plurality of heating layers are provided at a closer position to the recording medium than to the magnetic roller in said laminate portion.

21. A fixing belt as recited in Claim 16, wherein each of said plurality of heating layers has a same thickness respectively.

22. A fixing belt as recited in Claim 16, wherein a layer of said plurality of heating layers is formed thinner than the other heating layer(s), the layer being located at a closest position to the recording medium.

23. A magnetic roller comprising:

a roller body including magnetic metal member; and

a combination layer provided on a circumferential surface of said roller body,

wherein said combination layer includes a release layer operable to work in contact with a recording medium; a laminate portion provided in contact with the circumferential surface of said roller body; and an elastic layer located between said release layer and said laminate portion;

wherein said laminate portion includes a plurality of heating layers and a supporting layer, the plurality of heating layers containing non-magnetic conductive metal, and the supporting layer being operable to support said heating layers.

24. A magnetic roller as recited in Claim 23, wherein said laminate portion is

formed by laminating said heating layer and said supporting layer alternately.

25. A magnetic roller as recited in Claim 23, wherein the non-magnetic conductive metal is silver.

26. A magnetic roller as recited in Claim 23, wherein said laminate portion includes two to five heating layers.

27. A magnetic roller as recited in Claim 23, wherein said plurality of heating layers are provided at a closer position to the recording medium than to said magnetic roller in said laminate portion.

28. A magnetic roller as recited in Claim 23, wherein each of said plurality of heating layers has a same thickness respectively.

29. A magnetic roller as recited in Claim 23, wherein a layer of said plurality of heating layers is formed thinner than the other heating layer(s), the layer being located at a closest position to the recording medium.

30. An image forming apparatus comprising:

an image forming unit operable to form a toner image;

a transferring roller operable to transfer the toner image formed by said image forming unit onto a recording medium; and

a fixing unit operable to fix the toner image onto the recording medium by melting and pressing toner constituting the toner image,

wherein said fixing unit comprises:

a magnetic roller;

an inductive heating portion operable to heat said magnetic roller by electromagnetic induction;

a fixing roller operable to be arranged separately from said magnetic roller;

a fixing belt operable to be stretched by said magnetic roller and said fixing roller; and

a press roller facing said fixing roller, said press roller and said fixing roller

nipping the recording medium with the toner transferred thereon, to form a nip section,

wherein said fixing belt comprises a release layer operable to work in contact with the recording medium; a laminate portion operable to work in contact with said magnetic roller; and an elastic layer located between said release layer and said laminate portion;

wherein said laminate portion includes a plurality of heating layers containing non-magnetic conductive metal, and a supporting layer operable to support said heating layers.

31. An image forming apparatus comprising:

an image forming unit operable to form a toner image;

a transferring roller operable to transfer the toner image formed by said image forming unit onto a recording medium; and

a fixing unit operable to fix the toner image onto the recording medium by melting and pressing toner constituting the toner image,

wherein said fixing unit comprises: a magnetic roller; an inductive heating portion operable to heat said magnetic roller by electromagnetic induction; a press roller facing said magnetic roller, said press roller and said fixing roller nipping the recording medium with the toner transferred thereon, to form a nip section;

wherein said magnetic roller comprises a roller body including a magnetic metal member, and a combination layer provided on a circumferential surface of said roller body;

wherein said combination layer includes a release layer operable to work in contact with the recording medium, a laminate portion provided in contact with the circumferential surface of said roller body, and an elastic layer located between said release layer and said laminate portion;

wherein said laminate portion includes a plurality of heating layers containing non-magnetic conductive metal, and a supporting layer operable to support said

plurality of heating layers.